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REMARKS

Claims 1 and 4-7 stand rejected under 35 U.S.C. 102(b) as being anticipated by Adnan et al (U.S. Patent No. 6,373,047). Applicants respectfully traverse the rejection.

Claim 1 recites in part "a coherent light source for illuminating a surface". The Examiner indicates that Adnan et al. element 104 is "a coherent light source". However, Adnan et al. nowhere teach, suggest or disclose the need for "a coherent light source". Instead, Adnan et al. disclose an "electromagnetic radiation source (which may simply be a light source such as an LED) 104" (Col. 7, lines 39). It is well known that an LED is not a coherent light source, indeed an LED is defined as "a semiconductor diode that emits incoherent light at the junction between p- and n- doped materials" (emphasis added), Hecht, Understanding Fiber Optics, Prentice Hall, 2002, p. 756. No mention is made in Adnan et al. of the need for a "coherent light source" as recited in Claim 1.

Furthermore, Claim 1 recites in part "a detector positioned at an angle of reflection with respect to said surface operable to receive a reflected portion of said light beam from said surface, wherein said angle of reflection is substantially equal to said angle of illumination". The Examiner indicates that Adnan et al. FIG. 3 shows this element. However, Adnan et al. nowhere teach, suggest or disclose that "said angle of reflection is substantially equal to said angle of illumination". FIG 3 of Adnan et al. is described in the specification as "a more detailed diagram, in partial block form and partial schematic form, illustrating an operator input device" (col 7, lines 34-36) and as showing a "computer input device, shown in partial sectional and partial block diagram form" (col. 3, lines 11-12). Additionally, it is clear that FIG. 3 is not to scale, for example, the unevenness of work surface 106 is greatly exaggerated whereas in col. 9, lines 17-22 the specification of Adnan et al. recites "... substantially every surface has some irregularities or surface roughness, if only at the microscopic level. A commercially available artificial retina is capable of resolving images which are only a few microns in size, assuming the light source is powerful enough.. Hence, FIG. 3 is not to scale and FIG. 3 only shows a device and its components and is silent on whether "said angle of reflection is substantially equal to said angle of illumination".

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Therefore, Adnan et al. do not disclose each and every element of Claim 1 and Claim 1 is allowable over Adnan et al.

Claim 4 depends from Claim 1 and recites in part a "CMOS imager". Adnan et al. nowhere teach, suggest or disclose a "CMOS imager" as recited in Claim 4. In particular, there is no disclosure, suggestion or teaching of a "CMOS imager" in col. 7, line 60 as suggested by the Examiner. Col. 7, line 60 merely recites an "image detector (e.g. artificial retina)". The artificial retina is then described in col. 8, line 21 as having a "GaAs" layer which makes it clearly not a "CMOS imager" as recited in Claim 4. Hence, Adnan et al. do not disclose each and every element of Claim 4 and Claim 4 is allowable over Adnan et al.

Claim 5 depends from Claim 1 and recites in part a "collimation lens". Adnan et al. nowhere teach, suggest or disclose a "collimation lens". Adnan et al. merely disclose lens 108 and not a "collimation lens". Hence, Adnan et al. do not disclose each and every element of Claim 5 and Claim 5 is allowable over Adnan et al.

Claim 6 depends from Claim 1 and recites in part "a lens positioned to be operable to image a diffraction image of said surface onto said detector" (emphasis added). Adnan et al. nowhere teach, suggest or disclose a "lens positioned to be operable to image a diffraction image of said surface onto said detector" (emphasis added) as recited in Claim 6. Instead, Adnan et al. disclose "[i]mage detector 110 generates an image signal indicative of an image or pattern on work surface 116" (emphasis added) (col. 7, lines 66-67). Hence, Adnan et al. do not disclose each and every element of Claim 6 and Claim 6 is allowable over Adnan et al.

Claim 7 depends from Claim 1 and recites in part "wherein said surface does not lie in the nominal image plane of said detector" (emphasis added). Applicants respectfully point out that the Examiner has mischaracterized Claim 7. Claim 7 relates to the "nominal image plane of said detector" and not where detector 110 or surface 116 are located. Adnan et al. nowhere teach, suggest or disclose "wherein said surface does not lie in the nominal image plane of said detector" (emphasis added). Hence, Adnan et al. do not disclose each and every element of Claim 7 and Claim 7 is allowable over Adnan et al.

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Claims 8, 10-15 and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bohn (U.S. Patent No. 6,525,306). Applicants respectfully traverse the rejection.

Claim 8 recites in part "means for generating coherent specular reflection interference images" (emphasis added). Bohn nowhere teaches, suggests or discloses "means for generating coherent specular reflection interference images" (emphasis added). Bohn discloses light emitting diode (LED) 50 which is incapable of generating "coherent specular reflection interference images" as an LED is not a coherent source, indeed an LED is defined as "a semiconductor diode that emits incoherent light at the junction between p- and n- doped materials" (emphasis added), Hecht, Understanding Fiber Optics, Prentice Hall, 2002, p. 756. Hence, Bohn does not disclose each and every element of Claim 8 and Claim 8 is allowable over Bohn.

Claims 10-14 depend from Claim 8 and are allowable for at least the same reasons that Claim 8 is allowable.

Claim 15 recites in part "receiving a specularly reflected portion of said coherent light beam at an angle of reflection with respect to said surface, such that said angle of reflection is substantially equal to said angle of illumination". Bohn nowhere teaches, suggests or discloses "receiving a specularly reflected portion of said coherent light beam at an angle of reflection with respect to said surface, such that said angle of reflection is substantially equal to said angle of illumination". Indeed, FIG. 3 of Bohn clearly shows by the placement of optical sensor 58 with respect to light emitting diode 50 that the angle of reflection at which light is received by optical sensor is clearly not equal to the angle of illumination by light emitting diode 50. Instead, the relevant angle of reflection is substantially perpendicular to the surface while the angle of illumination is clearly not. Hence, Bohn does not disclose each and every element of Claim 15 and Claim 15 is allowable over Bohn.

Claims 17-20 depend from Claim 15 and are allowable for at least the same reasons that Claim 15 is allowable.

Claims 2 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinrot et al. (U.S. Patent No. 6,424,407). Applicants respectfully traverse the rejection.

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Claim 2 depends from Claim 1 and incorporates all the elements of Claim 1. Kinrot et al. do not teach, suggest or disclose all the elements of Claim 1. In particular, Claim 1 recites in part "wherein said angle of reflection is substantially equal to said angle of illumination" which is not taught, suggested or disclosed by Kinrot et al. Therefore, Kinrot et al. does not anticipate Claim 2 and Claim 2 is allowable over Kinrot et al.

Claim 3 depends from Claim 1 and incorporates all the elements of Claim 1. Kinrot et al. do not teach, suggest or disclose all the elements of Claim 1. In particular, Claim 1 recites in part "wherein said angle of reflection is substantially equal to said angle of illumination" which is not taught, suggested or disclosed by Kinrot et al. Therefore, Kinrot et al. does not anticipate Claim 3 and Claim 3 is allowable over Kinrot et al.

Claims 9 and 16 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bohn (U.S. Patent No. 6,525,306) in view of Kinrot et al. (U.S. Patent No. 6,424,407). Applicants respectfully traverse the rejection.

To establish a prima facie case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings and there must be a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant's disclosure. In re Vacek, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As stated in MPEP section 2144.03:

It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection is based. In re Zurko, 258 F. 3d at 1385, 59 USPQ2d at 1697 ("[T]he Board cannot simply reach conclusions based on its own understanding or experience- or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.").

Claims 9 and 16 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bohn (U.S. Patent No. 6,525,306) in view of Kinrot et al. (U.S. Patent No. 6,424,407). Applicants respectfully traverse the rejection. Kinrot et al. at col. 26 lines 26-27 does not disclose that "a laser should be used in a translation measurement system because a laser allows sharp image contrast" as recited by the Examiner. Instead Kinrot disclose at col

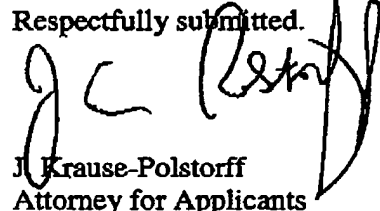
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26, lines 26-27 that "[a]pparatus 10 comprises a source of at least partially coherent, preferably collimated optical radiation 14, such as a laser". No mention is made of using a laser because "a laser allows sharp image contrast" as recited by the Examiner. Hence, the Examiner has failed to make a prima facie case of obviousness at least because Kinrot et al fail to disclose, teach or suggest what the Examiner has stated. Hence, Claims 9 and 16 are allowable in absence of a prima facie case of obviousness.

Therefore, Claims 1-20 are in condition for allowance and allowance is respectfully requested. Should the Examiner wish to discuss any aspect of the application he is invited to telephone the undersigned at (650) 485-5904.

Respectfully submitted.


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